Running head: PARAMEDIC/PHYSCIAN ASSISTANTS IN EMS.

Can Paramedic/Physician Assistants In EMS work?

Jason H. Berman

Lacey Fire District, Lacey, WA

Certification Statement

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Abstract

Emergency Medical Service (EMS) in Lacey, Washington is currently provided by Emergency Medical Technicians(EMT's) and Paramedic's (PM's) who respond to 911 calls to residents and make decisions after treatment to either transport the patient to a hospital or leave them at home. Fire service EMT's and paramedics are frequently asked to provide primary, non-emergent care to patients during 911 calls, the problem is that Emergency Medical Service (EMS) was designed to provide emergent care and not ongoing primary healthcare that is increasingly being demanded.

The purpose of this research is to describe the use of Paramedics/Physician Assistants in EMS, and EMS system and community impacts of such a program by providing care in an emergent and non-emergent care capacity. Questions examined include looking at the capabilities of PM/PAC's both in field and office patient care delivery to provide an alternative to hospital emergency room transport reducing EMS and emergency room workload. Further, questions of reducing 911 calls or incidents are examined by ongoing patient contact by PM/PAC's and the use of these new providers in times of disaster or health crisis.

This descriptive research project examines the problem in depth by looking at the growing need and changes in EMS and health care demand, and the inherent issues associated with these societal changes. The use of PM/PAC's as a tool to solve the problem is looked at not only in other areas that have conducted similar pilot projects but also discussed with experts in the discipline because it is untried in our state or community. The recommendation is constructing this program based on probable findings that this program could help reduce emergent 911 calls, save the community money, and improve community health.

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Introduction

In many communities in America, the hospital emergency room has become the primary source of health care and many studies state that the need for expanded hospital emergency room capacity is only going to increase. But during tight economic times and questions about health care funding and service payment in the wake of sweeping healthcare reform indicates that the hospital department emergency capacity or primary care is not going to be present (Hefflin, 2009). Recent outbreaks of seasonal influenza and avian and swine viral infections have helped illustrate that surge capacity or treatment capacity in our nations emergency rooms is seriously lacking (Sullivan, 2008). This impact to Emergency Medical Services or EMS is a similar experience to emergency rooms in that 10 to 40% of all transports in the United States are considered “low acuity” and non-emergent. The inherent issue is that it strains EMS systems through increased utilization that exceeds funding sources and that resources are committed sometimes for hours for a variety of reasons and not responding to higher priority or actual emergent calls (Krumperman, 2010).

Lacey Fire District (LFD) provides Emergency Medical Services to a community of around 102,000 people with the use of Emergency Medical Technicians (EMT’s) and Paramedics (PM) responding to over 11,000 calls a year. Many of these calls are in line with national experiences and are non-emergent type calls where by responders are being sent to see patients because there is no immediate alternative to care. These are calls that are sometimes labeled as “sick person” or “simple trauma” in some cases or other times where 911 is utilized because the

patients simply hope to escape long waits in hospital emergency department waiting rooms by theoretically getting directly admitted on an ambulance bed. Fire service EMT's and paramedics are frequently asked to provide primary, non-emergent care to patients during 911 responses, the problem is that the EMS system was designed to provide emergent care and not primary healthcare that is increasingly being demanded.

The purpose of this research project is to describe the use of Paramedic/Physician Assistants in EMS, and the associated impacts of such a program by providing patient care in an emergent and non-emergent care capacity. This research will look at taking paramedics and sending them back to school to gain a "PAC" certification and then apply them with the fire service in changing how care is sometimes applied in the field. The research looks at the following questions including how could a paramedic/physician assistant program in the community help to significantly reduce non-emergent EMS calls and hospital transports, thus reducing existing EMS and hospital emergency department workload? Also examined is how could these new PM/PAC's could help benefit the community and patients by providing primary care in the field of clinics. And finally the question is examined how could PM/PAC's provide care typically associated with emergency rooms and clinics, in the field especially during epidemics, disasters, and other time periods when the hospital emergency rooms are full or unavailable?

Through descriptively analyzing the position of PM/PAC and determining how a program like this could function in a fire department organization and how it would relate in the community is the idea that this new EMS responder and organization change could

substantially benefit many parties that would be involved and support this program. An action research methodology is not selected because the completion of final product or producing an actual PM/PAC would exceed the scope of the assignment and that the program looks at the existing and developing problem as much as it works to solve the problem.

Background and Introduction

In previous studies of Lacey Fire District and changes to its population, it was identified that significant population growth and changes in the population's demographics was having a significant impact on the number and type of 911 service request calls. Specifically, as the population got older that the number of calls was climbing at a faster rate than just population growth. As a result the increases of call for service was going to be significant and reached a conclusion that the department was going to need to significantly increase its resources if it continued to conduct business in a like or similar manner as it does currently (Berman, 2009).

The study of Lacey, WA identifies the problem of increasing call growth and the difficulty in having enough EMS resources to handle the increasing call volume in the wake of flat or decreasing budgets. From Coast to Coast, departments in the last two years have undergone significant budget reductions and responded accordingly with service reductions including EMS. In some cases, department have decided to simply stop responding to low priority EMS calls even though it traditionally makes up the majority of their response load (Ballam, 2010). At Lacey Fire District, they have laid of firefighters/EMT's now in three waves over the past 5 years with the possibility of even more EMS providers being cut by 2012. The budget as presented is

flat and not in pace with existing growth, and based on history and current economics, it appears to be consistent with many other organizations from around the country.

Hospital overcrowding or the places that fire department EMS providers traditionally transport patient's to are jammed and full. The problem here is that patient care is adversely affected by overcrowding and that "the ability of the hospital to provide emergency care to its community and serve its role in the emergency medical system is lost" (Henry, 2001) The problem of hospital emergency room overcrowding directly impacts the issue of EMS systems transporting patients.

> "Ambulances and emergency medical technicians (are required) to find another hospital to receive the next patient, is commonplace across America. In most cities, when one hospital is requesting ambulance diversion, all others in the area are as well. If not, ambulances would descend on the one open hospital with all the emergency patients, the resulting emergency admission and the financial consequence (many ED patients are indigent)" (Henry, 2001, p188).

The issue of overcrowding in emergency rooms is also going to likely become worse in the wake of national healthcare policy reform. As the new policy aims at providing 32 million people and perhaps more in the future healthcare, the question arises on what to do with these new patients. Rand Corporation researcher Dr. Arthur L. Kellermann predicts this from the new law: "More people will have coverage and will be less afraid to go to the emergency department if they're sick or hurt and have nowhere else to go.... We just don't have other places in the system for these folks to go" (Johnson, 2010).

Recent budget cuts and the national lack of health care coverage or the ability for many citizens to pay, indicate that the emergency rooms will continue to be filled and also will get busier as the need increases. Simply that as the need for health care increases and they cannot find the care anywhere else (like private practice or primary care doctors), then the public or patients come to the local emergency room (Justis, 2010). Adding to this is the existing lack of physicians, in which this shortage is expected to grow as the number of patients seeking care increase and medical schools can't keep up with providing enough physicians for primary care. It is estimated that the nation will be short 150,000 doctors in the next 15 years with certain states almost certainly going to be more significantly effected than others (Sataline & Wang, 2010) .

But beyond just jammed hospitals and the impact of not having places to transport patients from the field is the issue of surge capacity and what happens during pandemics or epidemics such as Swine or Avian Influenza. Other issues with disasters and periods of heightened service and being able to provide definitive care are a longstanding issue. With hospitals working to cut costs, eliminate empty beds, and unnecessary staff to operate at the most efficient manner possible, then its evident that there is very little surge capacity or admission capacity typically beyond scheduled admissions and whatever is left after average volume emergency rooms admissions (Henry, 2001, pg188). During pandemic events or events with higher than "normal" patient demands on hospitals and emergency rooms, the issue then becomes on what to do with these patients that have nowhere to go? Considerations for taking people to other locations than hospitals or even having paramedics and fire fighters handle patient care on orders outside of typical protocol could be the order of the day. This would be from the result

that there would clearly not be enough hospital capacity in the event of pandemics or other events of public health disasters (Powers and Slepski, 2009).

In looking at the significance to Lacey, Washington past research not only identified the impacts of an aging baby boom population, but it identified the clear need to develop strategies to deal with an increasing need in EMS response and lack of resources. (Berman, 2009, p. 17,36). Further recent examination at a local level also found the need to address the levels of overcrowding in our local hospitals (Justis, 2009). Communication with any local responder at Lacey Fire District will almost certainly relate a story of ambulance unavailability, jammed emergency rooms, hospitals that are "black flagged" or closed to new admissions, or stories of diversions to other facilities and hospitals hours away.

When looking at the goals and objectives of the *Executive Analysis of Fire Service Operations in Emergency Management* class curriculum, the need is identified in the course material to plan for hospital and operational alternatives in the wake of disasters. The class content further establishes the need for fire and EMS service to prepare for disasters of both manmade and natural of origin (FEMA, 2009, P. SM1-3). Additionally the project addresses two of the five goals of the United States Fire Administration, those being the goal to "Improve local planning and preparedness" and "Improve the fire and emergency services' capability for response to and recovery from all hazards". (FEMA, 2010, P. 17). These goals are met by the project identifying a need or element in local planning preparedness of both man-made and natural disasters and then developing an element or part of plan or strategy to help meet or respond to the identified issue.

The project ultimately aims to improve Lacey Fire District's and the community of Lacey, Washington over all preparedness and response at a local and regional level to deal with the identified problem with a long term solution.

Literature Review

The project started by coincidence with a conversation in 2009 with Paramedic and Physician Assistant Paul Taylor who at the time identified how much more he could do in the field as a paramedic if he could also practice as PAC. His view at the time was that he was aware of both the pre-hospital side of care as a paramedic and the world of clinical in-patient care as a PAC. So he would go out and see a patient and initiate transport knowing what the patient would likely see and how they would be treated upon getting to the emergency department of the hospital. In many cases, the patient would be transported to the hospital even though PM/PAC Taylor had the skills, capability, and knowledge to provide the identical care in the field and if possible avoid the whole steps in patient care of transport to a hospital, the wait, and then the care. The bills of course for providing this care, involving multiple parties and care providers and the wait, in addition to other costs are quite substantial. Examples of what bills and the process for such treatment is all over the place but examples of costs include a simple head/scalp laceration and stitches of nearly $5000 (Lopez, 2009). Other costs was not only the bill for the patient but the cost of tying up of responders on scene treating the patient in the field to an incomplete measure but then transporting the patient for ongoing care and disposition. Mr. Taylor hypothesized at the time that there has to be a more efficient way to handle the patients.

In looking at some other countries and how they address the issue of paramedicine or first response care, a “911 call” can mean a lot of different standards of responding care. In France a “112-18” gets you physician led SAMU (translates to Emergency Medical Assistance Service) which is fully board certified physician (Wikipedia, 2010a). This service not only is utilized for the purpose of emergent care (24% of the use) but is also utilized to send a physician to a private residence for non-transport needs and just patient evaluations (22% of the national usage). In this case, the MD responding to the French household will frequently provide the definitive care without ever sending a patient to the hospital.

Other cultures that American fire fighters and EMT’s run into include some Ukrainian citizens and immigrants who don’t understand why United States EMT’s and Paramedic’s can’t provide prescriptions or definitive care. Even in Germany, a Rettungsassistent or “Rescue Assistant” is considered a similar skills set to an American Certified Registered Nurse Anesthetist (CRNA) or Nurse Practitioner (NP) which in some ways is similar to Physician Assistant. England also will send out responders on ambulances that exceed the role of typical paramedics and function as independent practitioners (Wikipedia, 2010b). It should be noted that many EMS services in Europe have a clearly defined division of care from emergent care and a non-emergent care systems.

In reviewing literature, discussions about the use of nurses interchanging EMTs and PM’s in a hospital setting with nurses in a pre-hospital setting was examined. The concept looked at allowing EMTs and paramedics into emergency room with the primary goal to help fill shortages of nurses. In this case the Emergency Nurses Association (ENA) disapproved of the

idea but understood the necessity and drafted sample legislation, guidelines, or parameters to allow this to happen. Further, it was standard to also allow paramedics to work in emergency rooms in several states because of the nursing shortage where skills of all sorts were performed in a like or similar capacity of nurses but with some clear restrictions. But what was critical in this literature it identified not only the existence of flight nurses but identified that in many states depending on their laws, that nurses could immediately be used in the field without additional evaluation or certification. Still, the literature identified that in many regulatory groups such as the ENA or National Association of EMT's (NAEMT's) that barriers or separation needed to exist between pre-hospital and hospital environments. However the article identified several examples of cross disciplinary work between pre-hospital and hospital settings. (Garza, 1990, Pg. 56-60).

The physician's assistant though has a history founded almost upon paramedicine and could be viewed as being a program almost triggered along the same paths and energy from post Vietnam that created today's modern paramedic and EMT. After Vietnam, a large collection of medics returned from Southeast Asia with a broad knowledge base in medicine and experiences that couldn't be duplicated in any school. Duke University in North Carolina launched the first PA school in 1965 after seeing these combat medics working side by side with nurses, surgeons, and physicians in a variety of roles and specialties (Stanford, 1991).

In looking at what the Physician's Assistant can actually do or perform became very clear that an education factor was not as important as state laws. Variances in these laws were very broad with some states having almost no interaction or oversight and others have very strict

regulations and parameters in which a PAC could work. This is important in that the research project wanted to look at PAC's working in the field and providing care. In some states the laws may be so restrictive that the full potential of a PAC could not be utilized because of the legal need to have a licensed physician physically on site. Additionally some states also are strict enough in legal guidelines that a PAC simply may not be allowed to perform certain skills and may in fact have to perform at skill levels below that of a paramedic! In Washington State, it is legal for a PAC to work away from a medical doctor and perform very advanced skills that in the past were restricted to physician only. It was required in Washington for some oversight by a physician to simply require some of the medical records to be reviewed by a physician within a 1 week time frame. Clearly in other states such as Rhode Island or Maryland, the restrictions are much higher and likely could not support a PA working in the field to full potential. In Washington State where this project is looking at, there are potentially minimal functional differences in what a medical doctor could do versus what a physician's assistant can do (American Academy of Physician Assistants, 2010).

In looking at the impact to what doing preventative care that exceeds the normal or traditional emergent care role of EMT's and PM's in the field, one needs to look only at Canada to find examples in how the change in focus significantly helped local citizens. In a 2004 pilot study in remote Nova Scotia, paramedics whose primary duty was to provide emergent care to an Island's 1240 year round residents, also took on a clinical role based out of their headquarters. In this case protocols and procedures were developed for the PM's to provide in house clinics on basic health care including flu shot administration, blood pressure management and more. Further paramedics began to respond to patients as a function of non-

emergent response such as blood sugar management or other low acuity patient care. As the project progressed, a nurse practitioner was utilized in conjunction with the guidance of remote physician to provide even more advanced care. With the nurse practitioners clinical skill set added to the paramedics skill set, that included such things as chronic injury wound care (skin ulcers) and stitches. It also included such things as blood draws, diabetic assessments, congestive heart failure care, and more. Bottom line results were that as the community utilized the services, that the emergency department utilization eventually decreased by 23% in the treated population (Misner, 2005).

Since the initial Nova Scotia based program, the program has been tried in other provinces including Ontario where paramedics received training and skills outside of their normal paramedic training and began providing care in small communities or first people or native communities. In their studies, patients who in the past had been transported frequently were now not being transported at all because of the care being given to them by specially trained paramedics in a non-emergent community care roll. In 2006 the national association of EMS chiefs in Canada (EMSCC) suggested an encouraged a radical change in national pre-hospital care policy which included the development of a “comprehensive, effective system of community-based pre-hospital care”. The State of Minnesota and the Mayo clinic in 2006 asked to use the Canadian pre-hospital care model that was demonstrated for EMS users and conducted a study that generally duplicated many of the findings in Canada. The Mayo Clinic/EMS study concluded that the project had the ability to increase accessibility to primary health care along with a high level of customer acceptance and satisfaction with significant reductions in health care costs (Garza, 2007).

In reviewing the past work on PAC's in the field providing for disaster care especially in the roles of bioterrorism and pandemic response, literature indicated that the key to a more effective response to disasters was an increase in trained personnel and that PA's could do the work far more cost effectively that physicians in the same roles. Further, that PA's are likely to be some of the first responders in these roles of pandemic and bio-terror response because they are capable of conducting diagnosis and initiate definitive treatment (Mas, Hsu, Jacobsen, Zoretic & Felan, 2006).

In looking for clarification on how PAC's can be used in disasters, the National Disaster Medical Service (NDMS) has demonstrated through the use of DMAT's (Disaster Medical Assistant Teams) that PAC's can be utilized successfully in austere environments both locally and abroad. In DMAT deployments to a disaster area, the team can set up a field hospital or clinics in areas, go literally door to door if need be, or be used to augment existing local hospitals to help bolster their care provision. A DMAT consist of typically three physicians, eight nurses, four paramedics, four physician assistants or advance practice RN's or nurses, and a pharmacist and technician. In the case of past hurricanes or other more recent disasters DMAT's with the PAC's have been successful in nearly any role or application (Stregner, 2000)

In examining the literature on finding existing fire service based PAC field program I was able to find one program in Mesa, Arizona, that conducted a pilot study with the use of PAC's on TRV's or Transitional Response Vehicles. A TRV had an EMT and PAC that was utilized principally on non-emergent calls on a trial basis to accomplish several things. "It frees up engines to take emergency calls, avoids an ambulance transport to a hospital, and decreases

the backup at crowded hospital emergency rooms" Mesa Fire Chief Harry Beck said. The literature also pointed out that a key benefit for the Mesa Fire Department was that it helped specifically during cold and flu season especially with the large influx of out of area visitors who winter in the area and then leave come summer (Scarborough, 2008).

The Mesa Arizona Fire Department also identified that this project was designed to also relieve emergency rooms with the direct benefit of freeing up transport vehicles such as ambulances that nominally would be stuck at overcrowded emergency departments. It also freed up first response fire apparatus such as fire engines and in one case of a busy engine that ran a lot of EMS, it improved their availability time by 11% during the length of the study. The department also recognized the need to be proactive and change what it was doing in terms of EMS response because they recognized the aging of their population, increases in the number of children, and also other changes in their populations that would increase call volume over time. They also combined this with several other programs with the goal on reducing fire department response load and improve customer/patient care (Mesa Arizona Fire Department, 2008).

Other departments have initiated a similar program of not sending fire department resources priority and instead begin stacking low priority calls and utilizing something called an "Alpha Truck". Since the classification of these incidents is considered non-acute or lower priority, the emphasis then shifts to the use of an "Alpha Truck" to respond non-priority incidents in order to save money and priority resources. In this case, they used EMT's with an additional 8 hours of training to staff a ½ ton pickup loaded with basic life support equipment

and other supplies. The “perfect storm of pre-hospital care” or the reasons why Tucson Fire Department started the Alpha truck program was because of rising service delivery costs, reduced medical coverage in the community, an aging population (different problems and illnesses), emergency room overcrowding, 911 system overload, and an increase of home based-health care. In looking at the City of Tucson’s call volume, they found 1 in 6 calls were considered an “alpha” or low priority call (City of Tucson, 2007).

In Washington State, starting from July to December a 6 month study in Kent and Federal Way, Washington was initiated that utilized a CMT or Community Medical Technician that mirrored in many ways what Tucson Arizona Fire Department started. The target of this program was many of the same goals of the Tucson project but took dead aim at reducing the use of fire engines that responded to 45% to 56% of all of their lower priority classified calls. In looking at what the City of Tucson did in terms of cost savings, they found that the cost of an “alpha truck” response was on average $49.88 per run versus a fire engine response of $138.70 a run (City of Tucson, 2009). In loosely understanding the differences between the two areas of Puget Sound Washington and the Tucson area, it’s highly likely that the costs differences are perhaps even broader between a CMT vehicle and a fully staffed fire engine in Lacey, WA.

Searching literature in attempts to find why some organizations haven’t done similar projects have included one key reason being that it would cost fire departments billing payments on transports. Many EMS organizations in the past few years have adopted a “you call, we haul” philosophy which generally speaking meant if you called 911 to access the EMS system, you were going to get transported. One paramedic in Thurston County where they

don't charge for Advanced Life Support (ALS) transport to the hospital is also a fire commissioner in nearby Pierce County where he reviews budgets and examines transport volumes. In Pierce County or specifically East Pierce Fire and Rescue, PM/Commissioner Andrew Longstreth said that comparatively transport numbers and percentages are not at all comparable between the two county EMS organizations because East Pierce Fire and Rescue charge for transport and thus customers get billed for the ride to the hospital. This measure of organizational income influences the decision to transport and thus they transport to emergency departments for more frequently than non-billing agencies (A. Longstreth, 2010).

In other documentation, many organizations have reached the conclusion that they can't keep up with EMS call growth and have decided to start prioritizing calls in such a fashion to conserve resources and response. The issue for them is that now that you have a non-emergent category of EMS calls, what do you do with them? They are essentially doing a similar project to this in order to determine how to handle this growing classification of non-emergent EMS patient (Bagwell & Keith, 2009).

In summary, many departments are making decisions about what to do about changes in their respective EMS response load. As non-priority calls increase from a variety of reasons, departments are faced with overwhelming of the existing pre-hospital system, or re-think and re-engineer how and why fire departments and EMS responders manage lower priority calls. There is strong evidence that utilization of the EMS system for services above perhaps what was originally intended is going to occur and continue to occur and the costs of doing the same thing or the big red fire truck responding on these calls is becoming cost prohibitive and also

preventing organizations from responding to higher priority emergency calls. The goal of many of these alternative systems is to not necessarily to make money but to provide better service, improve community health, and save money by restructuring EMS response. There is ample evidence that modification of scope of practice of paramedics or EMTs to adding new disciplines to the fire department EMS repertoire has been highly successful in both rural to urban environments.

What wasn't found in the literature was the degree of expertise in actually running a program, developing personnel to become PM/PAC's, understanding more of the limitations in running a field PACs program, or even developing the protocols or oversight that legally was necessary to run a field PAC program. The limitations in the literary body on some of these programs is that many of them are so new, that there isn't anything on actually initiating a program and answering the questions in total depth without going to a few select individuals who may actually have the answer.

Procedures

Armed with a large body of past works and information from around North America regarding how paramedic/physicians assistants might work, and looking at reasons at why programs such as these will continue to develop. It became important to take the findings of the body and help develop a plan to answer the research questions at hand. While some of the findings of the review seemed to affirm or support the research questions the limitation came from the researcher's relative lack of knowledge about physician's assistants, no practice in

executing an EMS response program, and the limitation in not understanding the educational and legal limits.

The research then carefully looked at points of expertise in the state and nationally that could test the hypothesis and research questions that are posed. For this research, two people were looked at for the purpose of interviewing and testing the questions. They were Mrs. Ruth Ballweg, PAC from the University of Washington and Division Chief Mitch Snyder from Kent Regional Fire Authority.

Ruth Ballweg has been a practicing physician's assistant since 1978, and is the program director for the MEDEX program at the University of Washington. The MEDEX program is the state's physician's assistant educational program that has grown now to cover several states and helps educate PAC's that now practice all over the country. She is an associate professor of the world renowned Washington School of Medicine and helps advice and develops PAC programs around the country and the world. In the last few months she has helped the Chinese and British Columbia provincial governments build PAC programs and establish laws and protocols to establish them. On July 2, 2010 I was finally able to meet with her for over an hour after being rescheduled since April because of obligations in other countries. A series of questions based on the research questions were offered and then discussed in order to help clarify and provide resolution to the possibility or future consideration of PM/PAC program run at a fire department level and especially in Washington State. At the request of Mrs. Ballweg, the questions list was asked prior to the interview and is provided as an appendix.

D/C Mitch Snyder was contacted after I was advised by members of the City of Kent Washington Fire Authority to reach him in regards to their test "Incident Reduction Program" or IRP which in this case is the Community Medical Technician (CMT) program. For the City of Kent, they are very similar in geographic size to our department and reside in the same state. The responses from Chief Snyder would help understand needs and program development and also help understand the driving force behind changing the way fire departments do business especially in EMS. The interview was conducted for about 20 minutes on June 17, 2010 regarding the reasons why the programs he is testing were developed and what were their overall goals. Specifically, I was also looking for other programs like the proposed PM/PAC program and trying to define inherent issues and to see how they were managed with King County and perhaps other state's proposed solutions. A listing of post interview notes is included in the appendix.

A clear limitation into this project is that I have come to the conclusion that no exact program of PM/PAC exists in the country. The Mesa, Arizona project was perhaps the most similar program but the PAC had no paramedic training and didn't necessarily function in emergent situations. At least that was indicated as part of the initial plan of their Transitional Response Vehicle. The EMT didn't really do anything that was immediately obvious as exceeding his/her basic training and the vehicle was assigned only to low priority calls with no initial crossover capacity indicated. The programs of Tucson clearly indicate a need for doing something better than just emergent response but again focused on program objectives that were clearly different from the research questions. The biggest limitation is that the interview subjects were being asked to discuss the efficacy of aprogram that didn't exist and was purely

hypothetical. The ultimate test will be to do what King County, Mesa, Tucson, Nova Scotia, and the Mayo clinic have done and to develop a program keyed to their needs and community, test it, and refine it if possible.

Results

The results of the interview with Mr. Mitch Snyder were significant. At Lacey Fire District, we simply respond on all calls and do not delineate how we respond in terms of priority. All calls are considered a priority with the only changes in response being whether or not we turn on the lights and siren. Chief Snyder was asked to describe why they were undertaking the program and described in detail the costs associated with sending fire apparatus to low acuity scenes and that it never really addressed the inherent problems. That utilizing the same tool to respond to incidents over and over was not appropriate as the needs have changed from societal needs and changes. The CMT program was aimed at addressing immediate EMS changes in call growth other than just adding resources, personnel, and apparatus, and he felt that it was important to keep the program “proactive” by responding to scenes where repeat responses for low priority events had occurred. This would be like for scenes where patients had fallen or had more complex medical needs. In this case as in the Tucson program this meant making referrals, contacting other programs including social services, and generally solving problems that perhaps had nothing to do with traditional EMS. The primary purpose of this program was simply to reduce calls through prevention and being pro-active before situations became more severe.

The limitation in this interview was that the Kent, WA program did not have the goal of being clinical in any fashion yet so when looking at to solve the research question of disaster or epidemic implications of PM/PAC program, the Kent or Tucson program didn't on the face of it have any of those facets of this program. The same limitations existed in EMS personnel doing clinical or definitive treatment work but the CMT program did have aspects of it by doing referrals or working with patients to find solutions to ongoing problems.

For the final series of question for Mr. Snyder about the program being able to reduce non-emergent calls and hospital transports, the answer was that even at a non-PAC level of skill and care, that changing the manner in which fire department's respond to these sort of calls will be a matter of organizational survival. To explain this fact, Mr. Snyder described how many East Coast fire departments in the 70's and 80's gave up their EMS systems in favor of just doing fire and rescue. The problem then was that theses organizations also gave away much of their call volume and in his opinion, budgets soon followed away from fire departments. "Many fire departments have lost relevance due to their decisions", said Mr. Snyder. He also suggested that fire department's will have to respond to societal changes in order to stay relevant or my understanding is that 'who wants to pay for a service that isn't a value or appropriate to changing needs of a the customer base or community'?. As a final answer to this question, Mitch answered that if fire department's don't want to address the service changes, that private providers will and also will be in the perfect position to handle all of the EMS system capacity.

At the 10am meeting with Mrs. Ruth Ballweg, the questions posed started with understanding what PAC's could do to help reduce existing EMS workload and hospital transports. "I think PA's can do anything", she started but she also added the need for organizational direction and policy to be structured in new systems. She didn't have a doubt that the skills of PAC could provide definitive care and reduce patient transports but had more concern about policy, payment, and a strong business plan. The concerns were about being able to pay for a system if the established status quo already has a revenue/business plan. "Whose going to pay for it?" or "could the county pay for it?" were some of the new questions. In the existing system, there may be reluctance to provide a field PM/PAC system because the revenue generation of transporting patients, admitting them to an emergency room, and then providing a litany of potential tests and referrals are greatly reduced if not eliminated. Ruth was also asked about medical program directors or the doctors who typically run or allow EMS systems to be run under their license and whether they would buy off on having their respective emergency department's revenue cut by reducing ED admissions? Again, this question was about getting the support to actually reduce ED admissions and transports not necessarily if they physically could. The answer to this question was that MPD's and EMS programs need to be organizationally structured versus personalities of the MPD's. She suggested that changes in laws even at the national level may be what it takes to transfer the business decision process away from pure revenue generation and back to a utilitarian/patient care approach of providing care.

The next question series was about understanding if PAC's could provide patient or community care in the field or in a remote clinic environment. At this point, Mrs. Ballweg

described a series of clinics in remote Alaska, rural Washington State, and even part of her project with the British Columbia Provincial government that was looking at providing direct medical care in remote or community based settings. A map outside of her office helped emphasize that PAC trained person was almost in every community in the Pacific Northwest providing care especially in some fairly remote locations including cities, towns, and villages. She put emphasis on state laws that structure the practice and limitations of a PAC depending on certain state and provinces. She advised that in Washington State that a PAC can function alone in the field and provide near identical care as an MD provided that a MD has some involvement at least a ½ day every two weeks or some chart review.

In helping to understand one of the aspects of field and clinic care delivery Ruth discussed the value of making referrals. In the case of a company called the Group Health Cooperative which functions in the Northwest United States, they have a call center that is designed to help manage and direct patients for appropriate levels of care for their problems. This includes the use of PAC's and nurses to help refer patients to clinics, specialist, or even when to activate the 911 system. The importance of this discussion was that a PAC could help direct people to the right direction or even provide direct medical record transfer from the field to the specialist and avoid the whole process of 911 patient transport and then emergency department referral.

She expanded on this and identified that groups such as the United States Veterans Administration and even the United States Department of Defense medical command are actively decentralizing their health systems to do in a very similar capacity what this research project was looking at in providing local medical primary care instead of transfer and admission

into the main medical centers. She finished her answer by stating that currently 20% of all rural health care is currently administered by either advanced nurse practitioner's or nursing assistants.

In the final question series regarding if PM/PAC's could function in a disaster or during epidemics she pointed to the existing skill set that PAC's can provide and also provided that in her experience dating back to a 1949 polio outbreak in Southern Oregon to modern day gulf coast Hurricanes that she had no doubt that PAC's can function and provide critical services in the field in or out of the hospital. She also point to examples of PAC's having a significant impact in patient care in California earthquakes of the late 80's and 90's.

A brief question that seemed topically appropriate was understanding what national healthcare policy reform meant to the drivers of developing a program like a PM/PAC program? She advised that had not health care reform not taken place that a program such as what was proposed may not have a chance due to the reform change. She described that about ½ of the health care reform policy in her view was about insurance reforms while about 40% of the policy is aimed at what she termed as "side shows" or new ideas. She described that programs such as what I am proposing are projects that it they are financially effective could be funded.

In closing Mrs. Ballweg provided a document that described in detail what sort of backgrounds her students had in 2010 in order to get admitted to the program and become a PAC. 8 of 107 of those students were EMT's and 8 more were paramedics. This provided document has been provided as an appendix as it helps prove that paramedics and EMT's that

form the core components of EMS system could become PAC's in less than 2 years of further education.

The collective results were that in the opinion of the experts of both EMS systems and PAC use and education, that a need exists for programs that are different from most typical emergent only pre-hospital EMS systems and that physician assistants in the field not only can be highly effective in the field but also can make significant contributions to community health in a clinical aspect. This included disaster medicine like earthquakes and epidemics, reducing EMS patient transports and ED workload, and also improving community medicine. In looking at what sort of impact a PM/PAC might make at Lacey Fire District, the described effect of both the Mesa, Arizona Program and the Tucson, Arizona program can be roughly compared using their results for their populations. In Tucson's program of adopting an Incident Reduction Program, perhaps a like or similar PM/PAC program would relieve department responders of perhaps 1280 EMS calls a year out of 8000 calls that Lacey Fire District responded to emergently last year too. Keep in mind that the programs are not the same nor is the population characteristics.

Discussion

The findings of the project indicate that a project undertaken like a PM/PAC program could have significant impacts to disaster type medicine or surge capacity when emergency rooms are full or it's simply not possible to transport everyone to a hospital. The concept of transporting everyone is simply not practical at certain times and having an alternative and actually planning for worst case scenario should be the role of the fire service as much as it is

state and federal emergency management groups. Having an asset that can effectively provide a broad spectrum of service and skills would be invaluable to a community (Mas, Hsu, Jacobsen, Zoretic & Felan, 2006). The PM/PAC have been tested in the disaster environment and both the literature and an expert in PAC education and use have confirmed their history and capability (Stregner, 2000).

In looking at whether a PM/PAC could benefit the community in the field or in a clinical capacity, the Canadian study (Misner, 2005), The Mesa Arizona Fire Department Study (Scarborough, 2008), and the interview with Ruth Ballweg confirmed like or similar responses into weather a PAC in the field would work. That despite community differences between remote costal Nova Scotia or a program going door to door in Mesa, Arizona that enhanced skills and scope like a PA is a significant benefit to the community with marked reduction in emergency department use in some cases down 23% and evidence of overall community health improvement. Ballweg provided ample evidence that agreed with the literary body that a PAC is quite at home operating alone and providing a broad spectrum of very advanced care in remote locations in the field or clinics.

With the final question of whether a PM/PAC could help reduce non-emergent call load the one in six calls being taken away from normal response load is significant (City of Tucson, 2007). The response from D/C Mitch Snyder and his belief that the “pilot study” part of their project is “semantics” and the adoption of the program to full operational status is a matter of time.

I found the literature and the research to indicate that the program to reduce calls is not perhaps the function of a single program but needs to be a multi-tiered approach dependant upon which programs are designed around the needs of a community. In Nova Scotia, the remoteness of the environment and the use of nurse practitioners (again similar to PA's) were used to replace a complete absence of care at times by providing that care in a very efficient manner through an enhanced EMS system. A difference between perhaps our community and Nova Scotia is that the lack of access to health care to many is perhaps not a function of remoteness but more along the lines of a lack of financial resources and care providers. This is the same problem just different causes and triggers that resulted in the same affect. The use of enhanced EMT's in Tucson and King County also addressed a set of similar caused problems of lack of resources and changing community demographics but it has limitations that a second program such as the PAC in the field in the program addressed.

Perhaps that is one of the biggest differences between the Tucson and King County program and the proposed research project and the Mesa, Arizona project is capabilities. The PAC program can do much of the non-PAC program but the enhanced skills and clinical aspects of the PAC allows that program to do more especially in a program where primary care is challenged or the population is more elderly and infirm. In my understanding of the current reductions in Medicaid and Medicare that I am seeing patients who are accessing the 911 system because of the complete lack of primary care or that their acute medical problems exceed even the level of paramedic skills. The EMT based IRP's rely heavily on referral or non-transport solutions and prevention but the PAC program in the field could provide that

definitive final care or make modifications that the community and the patient would spend thousands of dollars more on for the same result and perhaps reduced quality.

The bottom line is that EMS providing organizations are going to have to re-think perhaps everything that they are doing in terms of providing care and in the end, the idea that needs to succeed is how do we as a community asset and medical care provider build an organizational tool that best and most cost effectively provides for patients in our community. Clearly the answer that won't work is simply spending more money on big red fire engines to deliver non-acute care.

The organizational implications are broad but the writing is on the wall that as Lacey Fire District looks at flat revenue and perhaps even declining resources, that we need to rethink and change what we are responding to and not spend as much energy on doing the exact same thing to clearly a changing problem. The necessity is clearly present that the original design of EMS and its function is not going to work forever as the problems and needs of a community change. The community should be willing to look at all alternatives and if the fire service and even Lacey Fire District wishes to remain functioning at its same capacity, then in needs to improve and become more effective and efficient in the future.

Recommendations

For Lacey Fire District, the emphasis now should look at how to implement a program to help reduce calls. The glaring limitation in how to initiate a program like a PM/PAC program or even something different is that it needs to fit with the need of the organization. There is not enough data currently available to look at what sort of incidents that Lacey Fire District #3

responds to in order to construct a program. This would include that we need to know if the call truly was emergent or not and get enough data about what responders saw and did to help categorize the incident as non-emergent or not. If we know more about what we are treating patients for then we can help build a program like the PM/PAC program.

Other recommendations include:

1. Follow and study the King County project and examine further the Tucson, Arizona incident reduction programs. The answer in addressing our issues of changing EMS needs perhaps a combination of not only a PM/PAC program but also a version or application of program that is working for those respective organizations.
2. Look at developing a strategy and a set of pre-built tactics that address periods of public health crisis or disaster when Lacey Fire District may not be able to transport the public to a hospital or that transport perhaps isn't possible because of the infection or exposure anyway. The concept of delivering definitive care in a home through a PM/PAC or other enhanced skill provider should be considered, planned for, and implemented.
3. Consider that an organization adapting to its communities most needed services is a service that is perhaps most valuable in the eyes of the taxpayer and customer. What I am suggesting that perhaps the services of a fire department providing primary care to its population in a cost effective manner is an organization that is highly appreciated, desired by the public, and doesn't have a problem getting funding or public support. At some point as the number of fires wane, the money getting image of the fire fighter is

probably going to change too; the fire department should try to encourage as much public interaction as possible and appear non-replaceable.

4. Consider that adapting your workforce to even a higher level of skill such as PAC provides some not previously thought of benefits and services. The issue of fire fighter fitness and health including medical and physical examination in addition to annual respirator medical clearance is something that a PAC is legally approved in doing in house without paying an outside entity to provide. Further, as health care costs continue to rise and climb, why should we pay an insurance company to provide primary care to our fire fighters and families if perhaps that resource is in-house and not an additional expense except for specialty care or referral.

In closing, I don't see any long term downside to adopting a program such as this where the capabilities of the fire service in EMS reach a new level. The benefits to the citizen, the hospital's emergency department, the community, and to the fire department are very clearly present. Perhaps it just takes planning and leadership to make it happen.

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Appendix A

Unpublished Tucson Fire Department Data on Cost Comparison

TUCSON FIRE DEPARTMENT

Dec-09

APPARATUS COST COMPARISON

START-UP COSTS	ALPHA	PARAMEDIC	ENGINE	LADDER TENDER	LADDER
Personnel	7	7	14	14	14
Base pay/benefits/other	$471,074	$628,846	$1,177,635	$1,177,635	$1,177,635
Vehicle	$27,000	$210,000	$475,000	$220,000	$685,000
Equipment	$21,410	$65,950	$101,647	$98,528	$88,119
TOTAL	**$519,484**	**$904,796**	**$1,754,282**	**$1,496,163**	**$1,950,754**
ANNUALIZED COSTS					
Personnel	7	7	14	14	14
Base pay/benefits/other	$471,074	$628,846	$1,177,635	$1,177,635	$1,177,635
CPM (2004-05)	$1,800	$3,220	$14,288	$7,395	$17,157
Fuel @ $3 per gallon	$2,769	$5,160	$8,700	$3,384	$7,041
Amortization/depreciation	$3,375	$26,250	$39,583	$15,714	$45,667
TOTAL	**$479,018**	**$663,476**	**$1,240,206**	**$1,204,128**	**$1,247,500**
PERSONNEL					
Personnel/# and pay grade	FFx2/ step 3	PMx2/ step 8	Cx1/ step 8 ENx1/ step 8 FFx2/ step 5	Cx1/ step 8 ENx1/ step 8 FFx2/ step 5	Cx1/ step 8 ENx1/ step 8 FFx2/ step 5
Hourly pay/crew	$46.22	$61.70	$115.55	$115.55	$115.55
VEHICLE					
Vehicle/Type/Make/Model	Ford F150 Ext. Cab Pickup	Ford F350 T-1 Ambulance*	Pierce Enforcer	Hackney Freightliner	Pierce Dash 100' Aerial
Avg. MPG (2004-05)	13	8.14	3.88	5.76	2.77
Avg. miles per year	12,000	14,000	11,250	6,500	6,500
Avg. gallons per year	923	1,720	2,900	1,128	2,347
Cost per mile (2004-05)	$0.15	$0.23	$1.27	$0.87	$3.99
Annual CPM	$1,800	$3,220	$14,288	$7,395	$17,157
Out of service time (04-05)	4%	10.33%	11.15%	6.80%	10.43%
Unit Cost	$27,000	$210,000	$475,000	$220,000	$685,000
Avg. service life/years	8	8	12	14	15
Annual amortization	$3,375	$26,250	$39,583	$15,714	$45,667

* used medium-duty rescue - for unit cost/amortization. Other factors based on T-1 unit history).

OTHER					
Equipment amortization	NOT FACTORED				
Disposable supplies	NOT FACTORED				
COST PER RUN*					
Personnel (pay/benefits/hr.)	$46.22	$61.07	$115.55	$115.55	$115.55
Cost per mile (10 mi.)	$1.50	$2.30	$12.70	$8.70	$39.90
Fuel (10 mi. @$2.30/gal.)	$1.77	$2.83	$5.93	$4.00	$8.30
Vehicle Amortization (hr.)	$0.39	$3.00	$4.52	$1.79	$5.21
TOTAL	**$49.88**	**$69.20**	**$138.70**	**$130.04**	**$168.96**

*Based upon 10 calls/day, 10 miles/run, and 1 hour duration.

Appendix B

Interview/discussion notes with Chief Snyder

Notes in phone call with Mr. Mitch Snyder, Division Chief, Kent Fire Department 0930 June 17, 2010

He described the CMT program as a King County EMS 6 month test from July 1, to December 31 designed to address categories of calls that are typically classified as non-acute or incidents that historically don't result in fatalities or injury if they are delayed. Sort of a phase 2 or second stage to a nurse plus program.

The program aims at addressing call growth through means other than just adding resources and apparatus, where by the program focuses at repeat 911 system users and those who are prone to re-use the system. Prevention in reducing calls is the goal.

The program is a 3 day a week trial for 8 hours a day. Its two guys in a pickup or SUV who respond non-priority for incidents up to 15 minutes delay. Its modeled loosely off of a like or similar program in Tucson where 4 "Alpha Units" do nothing but cover low priority calls for up to 45 minutes of delay including stacking of incidents.

Discussion: Felt this is the emerging conditions of our EMS world where several factors are impacting or creating changes in EMS call volume and type. Mitch drew a comparison of how East Coast Fire Departments have given up their EMS systems and as a result lost much of their call load and later their budget. Through prevention many of fire departments lost relevance due to their decisions. Mitch felt that this is also what fire departments of today will have to do and address this along with society changes. That if the fire department doesn't want to address the service changes, that private providers will and further will be in a position to handle all of the EMS capacity. That there is some degree of future efficiency that having redundant EMS systems probably won't be a possibility and that remaining topical by handling these incidents with more efficiency is critical.

He also believes that the CMT pilot study is really semantics.

Contact Jim Stalling at King County EMS for more information on the pilot project.

206-263-8661

Mitch Snyder [redacted]

Talked to Jim Stallings and learned more about "human Services" that is occurring TVFR and really in Tucson. Got a couple of emails too that has the information in Social Services. Alpha Trucks concept from Dave Righting (SP?) in Tucson. IRP is also an incident Reduction Program.

Appendix C

Ruth Ballweg, PAC questions

June 30, 2010

Hello Mrs. Ballweg,

For tomorrow during the interview, I am planning to work from 3 subject areas regarding PAC's in the EMS field:

1. How can paramedics (PM's)/and physician assistants (PAC's) provide care in the EMS field and not transport when typically under existing current skills and protocols, it would result in a hospital/ED transport?

   Questions stemming from this include:

   -Your thoughts on PM/PAC's ability to provide definitive care for many patients especially during disasters or epidemics. Are their limitations on PAC's working outside of a clinical environment without constant ED or medical control supervision?

   -Concerns about physician support. Most emergency departments are not keen on the idea of diverting emergency room visits and thus medical control such as Medical Program Directors (MPD's) on Emergency Department (ED) physicians may challenge or not permit such a program due to fiscal impacts to their practice or program. Is this a reasonable concern and if so thoughts on perhaps getting MD support for such a program?

   -In general, could PAC's handle many patient care contacts in the field just as well if they were seen in an emergency department?

2. How could paramedics/physician assistants help benefit the community and patients by providing primary care in the field or clinics?

   -One concept is that by not transporting patients and perhaps making contact with them before a 911 call or request for service is made, that preventive measures initiated by PAC could take place in the field. Such as referrals, field lab work, prescription modification, or other skills above the level of PM. Does this seem feasible that a PAC could help reduce 911 calls before they occur?

   -What about using PAC's in the field in terms of running the occasional neighborhood clinic for the underserved. This is done frequently in humanitarian missions or international communities, could this be done successfully in the United States? The idea is perhaps having clinics run by PAC's for certain populations even at fire stations with the focus being on local neighborhoods or underserved populations.

3. Is it possible for a PM/PAC program in a community to significantly reduce EMS calls and hospital transports thus reducing overall EMS workload?

   - In your travels, have you seen examples where the use of PAC's in clinics or the field has occurred or made significant impact to the health of select populations or communities? How was it successful? How about not successful?

   - Two programs that have my attention that I have found in my research include a Canadian EMS program that utilizes EMS first responders for a preventative causes, and a PAC/EMS pilot program in Mesa, Arizona that combined an EMT and a PAC to certain calls to reduce transport. Why couldn't these work in most communities?

Mesa: http://www.mesaaz.gov/fire/pdf/11-04-08CommPresentationforWebSite.pdf

Nova Scotia:
http://www.emsresponder.com/publication/article.jsp?pubId=1&id=1866&submit_comment=y#commentform

Side questions:

1. Is there adequate PAC education capacity especially in Washington State that if multiple agencies adopted a PM/PAC program, to send paramedics back to school to become PAC's, could it be done with existing educational resources?
2. Does this concept end on a slippery slope? If we start providing health care in the community, do we risk be inundated by the underserved?
3. In the recent health care overhaul bill, EMS is mentioned only 4 times and the actual implications are completely unknown. Is it reasonable to assume (or at least a valid concern) that needs for healthcare especially in elderly or underserved populations will dramatically increase in the next 5 years? In your opinion can these changes in national health care policy really impact EMS and emergency rooms potentially as becoming the default health care providers for some populations even more so than now?

What questions am I not asking that I should be?

Thank you. I can change or add to these depending on your schedule and allowed time. Thank you again for agreeing to meet with me.

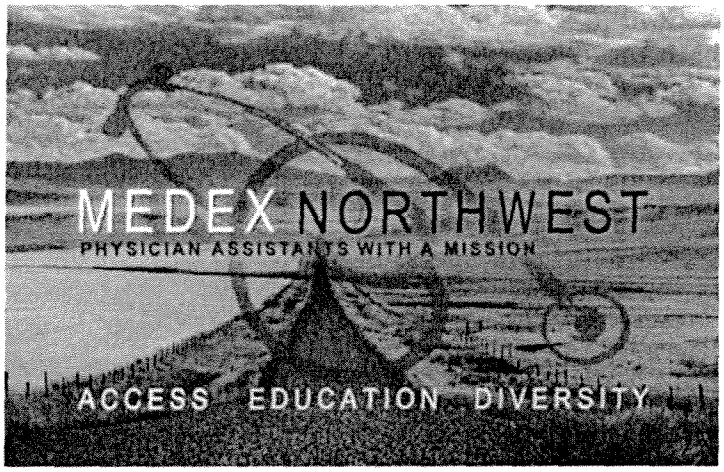
Lt. Jason Berman

Lacey Fire District

360-790-1357

Appendix D

2010 MEDEX Northwest Admissions Statistics



STATISTICS FOR 2010 MEDEX CLASS

Total applicants		**589**	
Total number of applicants interviewed		**204**	
Total Offers Made		**126**	
Number of students expected summer quarter		**107**	
Master of Clinical Health Services Degree Option			
Seattle	Class 44	45 Students + 1 returning	
Spokane	Class 14	21 Students + 1 returning	
Bachelor of Clinical Health Service Degree Option			
Yakima	Class 17	19 Students + 4 possible returning	
Anchorage	Class 2	19 Students + 1 possible returning	
Re-applicants to MEDEX Northwest		**34**	**(31.7%)**
New Applicants		**73**	**(68.3%)**
Median Age:	**32**		
50 Male Students	(46.2%)		
57 Female Students	(53.8%)		
MILITARY EXPERIENCE			
26 Students with Military Background	(24%)		

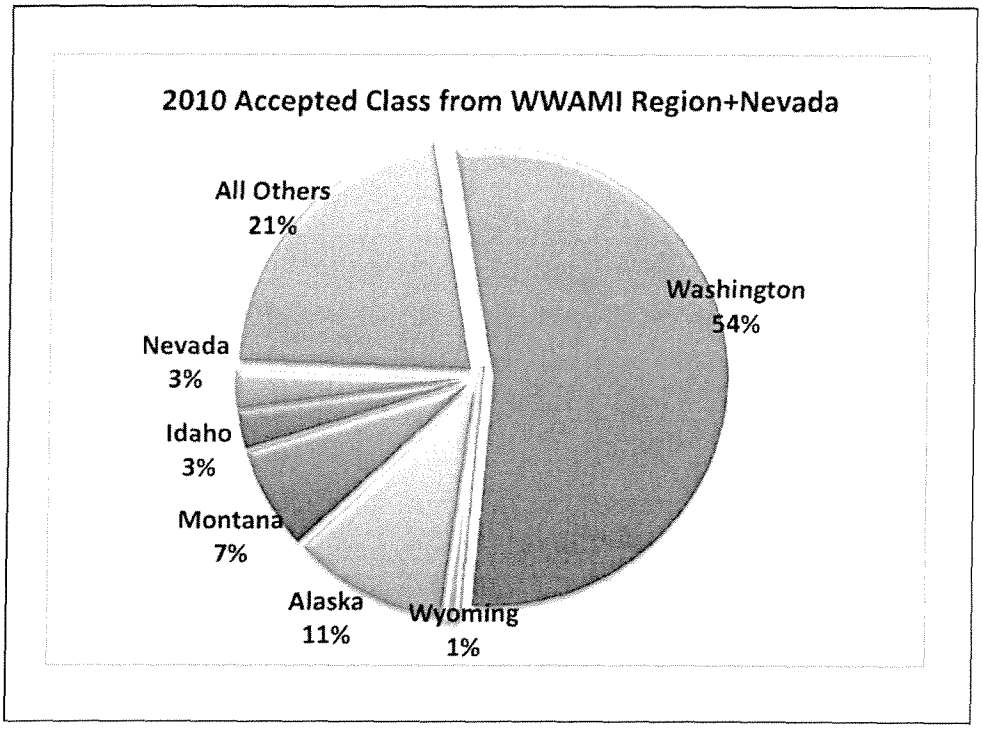
STATISTICS FOR 2010 MEDEX CLASS

Ethnic Background

American Indian/AK Native Am	2 (1.9%)
African American	3 (2.8%)
Caucasian	80 (74%)
Asian / Other Asian	4 (3.7%)
Mexican American/Chicano	10 (9.3%)
No Answer	7 (6.5%)

The Five Most Common Patient Care Experiences among MEDEX Students

* Military Medic / Corpsman	26 students
* Emergency Medical Technologist	8 students
* Medical Assistant	8 students
* RN / LPN	8 students
* Paramedics	8 students



2010	Total Applicant Pool	Applicant Statistics
	589	
Re-Applicants	85	14.4%
New Applicants	504	85.6%
Men	229	38.9%
Women	360	61.1%
Mean Age	30	
Age 20-25	158	26.8%
Age 26-30	222	37.7%
Age 31-35	102	17.3%
Age 36-40	47	8.0%
Age 41-45	25	4.2%
Age 46 +	35	6.0%
Military Exp.	68	11.5%
Years Exp. Average	5.3 yrs	

2010 – MCHS Class	Seattle Class 44	Spokane Class 14
	46	*22*
Re-Applicants	15 (32.6%)	8 (36.4%)
New Applicants	31 (67.4%)	14 (63.6%)
Men	20 (43.5%)	11 (50%)
Women	26 (56.5%	11 (50%)
Mean Age (range 23 – 49)	32	32
Age 20-25	6 (13%)	4 (18.2%)
Age 26-30	18 (39.2%)	8 (36.4%)
Age 31-35	11 (23.9%)	3 (13.6%)
Age 36-40	6 (13%)	3 (13.6%)
Age 41-45	1 (2.2%)	3 (13.6%)
Age 46 +	4 (8.7%)	1 (4.6%)
Military Exp.	9 (19.6%)	3 (16%)
Years Exp. Average	6.3 years	6.3 years
Average GPA	3.27	3.24

2010 – BCHS Class	Yakima Class 17	Anchorage Class 2
	19	*19*
Re-Applicants	6 (31.6%)	6 (31.6%)
New Applicants	13 (68.4%)	13 (68.4%)
Men	14 (74%)	4 (21%)
Women	5 (26%)	15 (79%)
Mean Age (range 22 – 54)	34	34
Age 20-25	0 (0%)	2 (10.5%)
Age 26-30	5 (25%)	7 (37%)
Age 31-35	11 (60%)	4 (21%)
Age 36-40	2 (10%)	2 (10.5%)
Age 41-45	1 (5%)	2 (10.5%)
Age 46 +	0 (0%)	2 (10.5%)
Military Exp.	7 (36.8%)	7 (36.8%)
Years Exp. Average	8.9 years	8.3 years
Average GPA	3.07	2.87

2009 – 2010 Comparison	2009	2010
Total Accepted	*92*	*107*
Re-Applicants	40 (43.5%)	34 (31.7%)
New Applicants	52 (56.5%)	73 (68.3%)
Men	33 (35.9%)	50 (46.2%)
Women	59 (65.1%)	57 (53.8%)
Mean Age	34 (range 24 to 55)	32 (range23 – 54)
Military Exp.	15 (16.3%)	26 (24%)
Years Exp. Average	6.77 years	7.5 years
Average GPA	3.14	3.11